

**REMARKS**

Applicant notes that this response is being filed after the mailing of a Final Office Action, and is intended to place the application in condition for allowance or to at least reduce the issues upon appeal. Entry of this response into the record is respectfully requested..

No claims are presently requested to be amended, cancelled, or added. Claims 81-122 remain pending in this application.

As an initial matter, Applicant's Representatives Steven Davis and Jeffrey Lomprey, thank Examiner Haider for taking part in a telephonic interview of the application on February 8, 2010. The pending rejections were discussed in view of the prior art of Noda, Saito, and Marecki. Applicant's Representatives pointed out that Noda requires the presence of 3-hydroxyvalerate, which is absent from the instantly claimed invention, and that Saito fails to teach or suggest the use of PHAs as adhesives. The Examiner stated that an after final response should be filed, and that the Examiner would act on it within 10 days.

Claims 81, 82, 84-111 and 113-122 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. 6,174,990, issued to Noda, in view of Saito *et al. Polymer International* 39, 169-174 (1996). Applicant respectfully traverses this rejection.

The Applicant respectfully submits that the combination of Noda and Saito simply fails to teach or suggest each and every element of the claimed invention, and furthermore there is no guidance provided by these references that would direct the person of ordinary skill in the art to the claimed invention. Claim 81 presently recites:

An article comprising:

a substrate having a surface; and

an adhesive composition supported by the surface of the substrate,  
wherein the adhesive composition comprises a PHA, the PHA

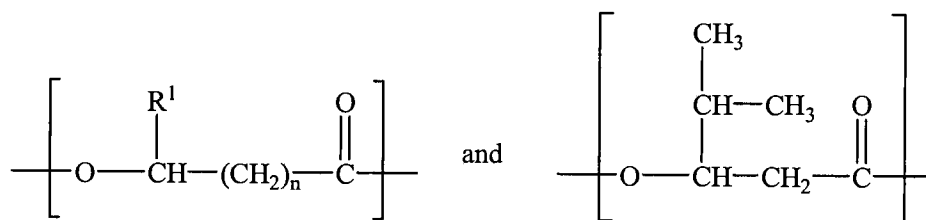
*being* poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C.

In view of the plain language of the claim, the article includes an adhesive composition containing a PHA that *is* poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C. Thus, the Applicant has defined an article that may include other components in addition to a substrate and an adhesive composition.

Furthermore, while the adhesive composition may include components in addition to a PHA, the PHA *is* a poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C. Such a feature is not taught or suggested by either of the references, alone, or in combination.

The Applicant appreciates the Examiner's acknowledgement that Noda fails to teach a poly(3-hydroxybutyrate-co-4-hydroxybutyrate) having a glass transition temperature from about -30 °C to about -5 °C, however, the Applicant further directs the Examiner's attention to the fact that Noda also fails to teach a poly(3-hydroxybutyrate-co-4-hydroxybutyrate).

Noda teaches biodegradable polyhydroxyalkanoate (PHA) co-polymers that have *at least two* randomly repeating monomer units (RRMUs). *See* col. 3, line 53- col. 4, line 9. According to Noda, these randomly repeating monomers are:



In the above structures, R<sup>1</sup> is H, or C<sub>1</sub> or C<sub>2</sub> alkyl, and n is 1 or 2. While the co-polymer may include other RRMUs, the 3-hydroxyvalerate (the structure on the right) is a *required* element in the polymers of Noda. Because the presently claimed poly(3-hydroxybutyrate-co-4-hydroxybutyrate) does not include 3-hydroxyvalerate, Noda simply fails to teach or suggest this PHA.

Applicant also points out that the presently pending claims are not directed to a PHA *comprising* 3HB and 4HB, rather, the claims are directed, in part, to an article comprising an adhesive composition. The adhesive composition then comprises a PHA that *is* poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C. The plain language of the claim excludes the PHAs of Noda in which the 3-hydroxyvalerate RRMU is required. In the instant Office Action, when responding to the Applicant's previous remarks, the Examiner asserted that "it is clear that Noda readily envisages a copolymer comprising 85% of 3HB and 4HB." *See* ¶ 24. However, as shown above, this is not what is claimed. Thus, without a teaching or suggestion of each and every element of the claimed invention, Noda cannot be found to anticipate, or render obvious, the presently claimed invention, and Saito must therefore fill void, but it does not.

Saito is directed the synthesis of poly 3-hydroxybutyrate-co-4-hydroxybutyrate and its properties. Saito teaches the glass transition temperatures of various ratios of the individual monomeric units to one another, and that the co-polymers have varying thermal and physical properties, and that they are biodegradable. However, there is no suggestion or teaching of an adhesive that includes a PHA that *is* poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C. In fact, Saito entirely lacks any discussion of adhesive properties.

Thus, where Noda lacks a teaching of a poly 3-hydroxybutyrate-co-4-hydroxybutyrate, and actually requires that all of the co-polymers be based upon 3-hydroxyvalerate, there is no suggestion of the combination with Saito's copolymers. As noted above, Saito's co-polymers lack any teaching of an adhesive property for the particular claimed glass transition temperature range. As such, the Applicant asserts that the grounds for rejection have been overcome and requests that the Examiner allow the application to proceed to issuance.

With regard to method claims 111-122, Applicant separately addresses the references. Claims 111 and 119, independently address methods of adhering two surfaces together with a PHA that is poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature

from about -30 °C to about -5 °C. Saito is silent with respect to the adhesive properties of the polymers described therein. As such, Saito can provide no guidance to a skilled person with respect to how to obtain an adhesive polymer. The Examiner's reliance on Saito for modifying the polymers of Noda to be used in a claim directed towards adhering two surfaces is therefore improper.

Lastly, claims 83 and 112 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Noda in view of Saito and further in view of U.S.P. 4,655,768, issued to Marecki. The Applicant respectfully also traverses this rejection.

As shown above, Noda and Saito fail alone or in combination to render the claims obvious, for failing to teach or suggest an article including an adhesive composition that in turn includes a PHA, where the PHA is poly 3-hydroxybutyrate-co-4-hydroxybutyrate having a glass transition temperature from about -30 °C to about -5 °C. The Applicant submits that Marecki likewise fails to teach or suggest this element.

Marecki is solely relied upon for a teaching of the thickness of an adhesive layer. Marecki is directed to bandages and systems for the controlled release of transdermally or topically administered drugs. Not only is there no teaching or suggestion of the use of poly 3-hydroxybutyrate-co-4-hydroxybutyrate in the adhesives, there is no teaching or suggestion of the use of *any* PHA in the adhesives. Thus, Marecki cannot be found to fill the voids of Noda and Saito.

Because Noda, Saito, and Marecki, alone or in combination fail to teach or suggest each and every element of the presently claimed invention, Applicant respectfully requests withdrawal of the remaining rejections and that the application be allowed to proceed to issuance.

As such, the Applicant asserts that all remaining grounds for rejection have been overcome and request that the Examiner now allow the application to issue. The Examiner is

invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,


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